

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A high efficient method of slag scooping-up from liquid iron, characterized in that the two wings of slag rake mounted to the front end of cantilever descend side by side until beneath the surface of the liquid iron at a certain depth. The two rakes make swing movement respectively along the surface of liquid iron, when gradually moving close to each other in the course of swing movement, they get put together and clamp the solid slag therefore, driven by the cantilever, the two slag rakes which clamp the sold slag are brought to ascend until above the surface at a certain height, finally they leave the space over the ladle and discharge the slag.

2. (Withdrawn) A high efficient method of slag scooping-up from liquid iron according to Claim 1, characterized in that:

(1) when the liquid iron ladle moves in and takes its working position, the flatcar, driven by a motor or hydraulic power, moves forward to appropriate working position for the process of slag scooping-up;

(2) the hoisting main shaft (oil cylinder) starts to operate, it brings the slag rakes down into the liquid iron and beneath the surface at a certain depth by means of a cantilever;

(3) hydraulically driven by the oil cylinder, the slag rakes make swing movement for collecting slag;

(4) when the two slag rakes driven by the cantilever move to the edge of liquid iron ladle, the hoisting main shaft (oil cylinder) lifts up the cantilever, which brings the slag rakes up and above the surface at a certain height;

(5) driven by the motor or hydraulic power, the flatcar starts to move backward until to the position where the slag rakes completely leave the space over the liquid iron ladle;

(6) the two slag rakes swing in a reversed way respectively so as to make the slag in the rakes fall down into the slag hopper in the vicinity of the ladle.

3. (Currently amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag-scooping-up slag from liquid iron ~~according to claim 1 and 2, characterized in that,~~ comprising:

a flatcar track (8),

a flatcar (7) which reciprocates along the flatcar track (8), and

a cantilever (4) which is connected to the flatcar (7) by means of a hoisting main shaft (5). ~~The,~~

a rack (10) is fitted in the in a drive case (2) at the at a front end of the cantilever (4), it is two gears (11) engaged with the rack (10) gears (11) on its on two sides thereof,

wherein the two gears (11) are fixed ~~to the~~ to rear ends of two slag rakes (1) by means of two rotating shafts (3), and

wherein the two slag rakes (1) are adapted to swing toward each other in order to clamp and scoop-up the slag.

4. (Currently amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag scooping-up from liquid iron according to claim 3, ~~characterized in that there is~~ further comprising:

an oil cylinder (9) connected ~~to the~~ to a rear end of the rack (10). ~~The, the~~ oil cylinder (9) ~~drives-being adapted to move~~ the rack (10) ~~to move~~ forward or backward.

5. (Currently amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag scooping-up from liquid iron according to claim 3, ~~characterized in that~~ wherein the flatcar (7) is driven by a motor to move along the flatcar track (8).

6. (Currently amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag scooping-up from liquid iron according to claim 3, ~~characterized in that~~ wherein the flatcar (7) is driven by hydraulic power to move along the flatcar track (8).

7. (Currently amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag scooping-up from liquid iron according to claim 3, ~~characterized in that wherein~~ one side of each of the two slag rakes (1) which gathers and clamps the slag is in ~~is~~ has a saw-tooth shape.

8. (Cancelled)

9. (Currently Amended) A device for implementing ~~the~~ a high efficient-efficiency method of slag scooping-up from liquid iron according to claim 3, ~~characterized in that wherein~~ the cantilever ~~is of~~ is a hydraulic-driven-type driven-type cantilever.